

ABSTRACT OF THE INVENTION

A novel polypeptide, osteoprotegerin binding protein, involved in osteoclast maturation has  
5 been identified based upon its affinity for osteoprotegerin. Nucleic acid sequences encoding the polypeptide, or a fragment, analog or derivative thereof, vectors and host cells for production, methods  
10 of preparing osteoprotegerin binding protein, and binding assays are also described. Compositions and methods for the treatment of bone diseases such as osteoporosis, bone loss due to arthritis or metastasis, hypercalcemia, and Paget's disease are also provided.

Receptors for osteoprotegerin binding  
15 proteins are also described. The receptors, and agonists and antagonists thereof, may be used to treat bone diseases.